

LISTING OF CLAIMS:

Claims 1 and 2 (Cancelled)

Claim 3 (Currently Amended): A surface-modified, pyrogenically produced oxides doped by aerosol, characterized in that the oxides are selected from the group consisting of SiO_2 , Al_2O_3 , TiO_2 , B_2O_3 , ZrO_2 , In_2O_3 , ZnO , Fe_2O_3 , Nb_2O_5 , V_2O_5 , WO_3 , SnO_2 and GeO_2 , wherein the surface is modified to impart to the surface a sufficient hydrophobic character which permits rapid dissolution in organic systems at high concentrations with one or several compounds selected from the following groups:

a) Organosilanes having either formula $(\text{RO})_3\text{Si}(\text{C}_n\text{H}_{2n+1})$ or $(\text{RO})_3\text{Si}(\text{C}_n\text{H}_{2n-1})$, wherein

R = alkyl, and

n = 1 – 20;

b) Organosilanes having either formula $\text{R}'_x(\text{RO})_y\text{Si}(\text{C}_n\text{H}_{2n+1})$ or $(\text{RO})_3\text{Si}(\text{C}_n\text{H}_{2n+1})$,

wherein

R = alkyl,

R' = alkyl,

R' = cycloalkyl

n = 1 – 20,

x+y = 3,

x = 1, or 2, and

$y = 1, \text{ or } 2;$

c) Halogen organosilanes having either formula $X_3 \text{ Si}(\text{C}_n\text{H}_{2n+1})$ or $X_3 \text{ Si}(\text{C}_n\text{H}_{2n-1})$,

wherein

$X = \text{Cl, or Br, and}$

$n = 1 - 20;$

d) Halogen organosilanes having either formula $X_2 (\text{R}') \text{ Si}(\text{C}_n\text{H}_{2n+1})$ or

$X_2 (\text{R}') \text{ Si}(\text{C}_n\text{H}_{2n-1})$, wherein

$X = \text{Cl, or Br}$

$\text{R}' = \text{alkyl and or cycloalkyl, and}$

$n = 1 - 20;$

e) Halogen organosilanes having formula $X (\text{R}')_2 \text{ Si}(\text{C}_n\text{H}_{2n+1})$ or

$X (\text{R}')_2 \text{ Si}(\text{C}_n\text{H}_{2n-1})$, wherein

$X = \text{Cl, or Br};$

$\text{R}' = \text{alkyl or and cycloalkyl, and}$

$n = 1 - 20;$

f) Organosilanes having the formula $(\text{RO})_3\text{Si}(\text{CH}_2)_m\text{-R}'$

$\text{R} = \text{alkyl,}$

$m = 0, \text{ or } 1\text{-}20, \text{ and}$

$R' =$ methyl-, aryl-, $-C_6H_5$, substituted phenyl groups,
 $-C_4F_9$, $OCF_2-CHF-CF_3$, $-C_6F_{13}$, $-O-CF_2-CHF_2$,
 $-NH_2$, $=N_3$, $-SCN$, $-CH=CH_2$, $-NH-CH_2-CH_2-NH_2$,
 $-N-(CH_2-CH_2-CH_2NH_2)_2$,
 $-OOC(CH_3)C=CH_2$,
 $-OCH_2-CH(O)CH_2$,
 $-NH-CO-N-CO-(CH_2)_5$,
 $-NH-COO-CH_3$, $-NH-COO-CH_2-CH_3$, $-NH-(CH_2)_3Si(OR)_3$,
 $-SH$, or
 $-NR'R''R'''$, wherein $R' =$ alkyl, or aryl; $R'' = H$, alkyl, aryl; and $R''' = H$, alkyl, aryl,
 benzyl, or $C_2H_4N(R''')_2$, wherein $R''' = H$, or alkyl;

g) Organosilanes having the formula $(R'')_x(RO)_ySi(CH_2)_m-R'$, wherein

$R'' =$ alkyl, or cycloalkyl,

$x+y = 2$,

$x = 1$, or 2 ,

$y = 1$, or 2 ,

$m = 0$, or 1 to 20 , and

$R' =$ methyl-, aryl-, $-C_6H_5$, substituted phenyl groups,

$-C_4F_9$, $-OCF_2-CHF-CF_3$, $-C_6F_{13}$, $-O-CF_2-CHF_2$,

$-NH_2$, $-N_3$, SCN , $-CH=CH_2$, $-NH-CH_2-CH_2-NH_2$,

$-N-(CH_2-CH_2-NH_2)_2$,

-OOC (CH₃)C = CH₂,

-OCH₂-CH(O) CH₂,

-NH-CO-N-CO-(CH₂)₅,

-NH-COO-CH₃, -NH-COO-CH₂-CH₃, -NH-(CH₂)₃Si(OR)₃,

or -SH , or

-NR'R''R''', wherein R' = alkyl, or aryl; R'' = H,

alkyl, or aryl; and R''' = H, alkyl, aryl, benzyl, or

C₂H₄N(R''')₂, wherein R''' = H, or alkyl ;

h) Halogen organosilanes having the formula X₃Si (CH₂)_m-R', wherein

X = Cl, or Br,

m = 0, 1 – 20,

R' = methyl-, aryl, -C₆H₅, substituted phenyl groups

-C₄F₉, -OCF₂-CHF-CF₃, -C₆F₁₃, -O-CF₂-CHF₂,

-NH₂, -N₃, SCN, -CH=CH₂, -NH-CH₂-CH₂-NH₂,

-N-(CH₂-CH₂-NH₂)₂,

-OOC (CH₃)C = CH₂,

-OCH₂-CH(O) CH₂,

-NH-CO-N-CO-(CH₂)₅,

-NH-COO-CH₃, -NH-COO-CH₂-CH₃, -NH-(CH₂)₃Si(OR)₃, or

-SH;

i) Halogen organosilanes having the formula $(R)X_2Si(CH_2)_m-R'$, wherein

$X = Cl, \text{ or } Br,$

$R = \text{alkyl such as methyl-, ethyl-, or propyl-},$

$m = 0, \text{ or } 1 - 20, \text{ and}$

$R' = \text{methyl-, aryl-, } -C_6H_5, \text{ substituted phenyl groups,}$

$-C_4F_9, -OCF_2-CHF-CF_3, -C_6F_{13}, -O-CF_2-CHF_2,$

$-NH_2, -N_3, SCN, -CH=CH_2, -NH-CH_2-CH_2-NH_2,$

$-N-(CH_2-CH_2-NH_2)_2,$

$-OOC(CH_3)C=CH_2,$

$-OCH_2-CH(O)CH_2,$

$-NH-CO-N-CO-(CH_2)_5,$

$-NH-COO-CH_3, -NH-COO-CH_2-CH_3,$

$-NH-(CH_2)_3Si(OR)_3, \text{ or}$

$-SH;$

(j) Halogen organosilanes having the formula $(R)_2X Si(CH_2)_m-R'$, wherein

$X = Cl, \text{ or } Br,$

$R = \text{alkyl},$

$m = 0, \text{ or } 1 - 20, \text{ and}$

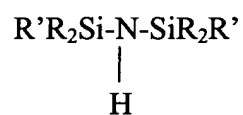
$R' = \text{methyl-, aryl-, } -C_6H_5, \text{ substituted phenyl groups,}$

$-C_4F_9, -OCF_2-CHF-CF_3, -C_6F_{13}, -O-CF_2-CHF_2,$

$-NH_2, -N_3, SCN, -CH=CH_2, -NH-CH_2-CH_2-NH_2,$

$-\text{N}-(\text{CH}_2-\text{CH}_2-\text{NH}_2)_2$,
 $-\text{OOC}(\text{CH}_3)\text{C}=\text{CH}_2$,
 $-\text{OCH}_2-\text{CH}(\text{O})\text{CH}_2$,
 $-\text{NH}-\text{CO}-\text{N}-\text{CO}-(\text{CH}_2)_5$,
 $-\text{NH}-\text{COO}-\text{CH}_3$, $-\text{NH}-\text{COO}-\text{CH}_2-\text{CH}_3$, $-\text{NH}-(\text{CH}_2)_3\text{Si}(\text{OR})_3$, or
 $-\text{SH}$;

(k) Silazanes having the formula

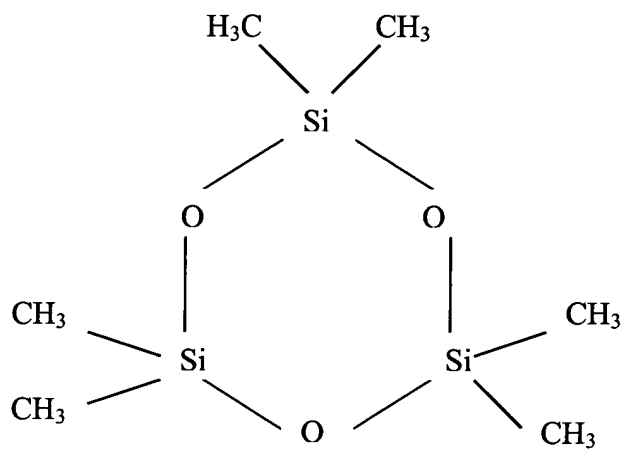


wherein R = alkyl, and

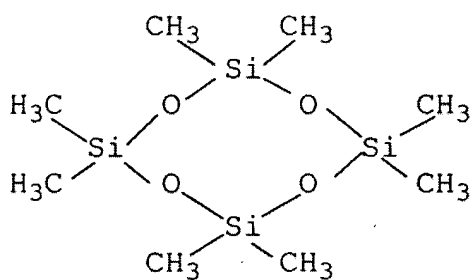
R' = alkyl, or vinyl; or

(l) Cyclic polysiloxanes D 3, D 4 or D 5,

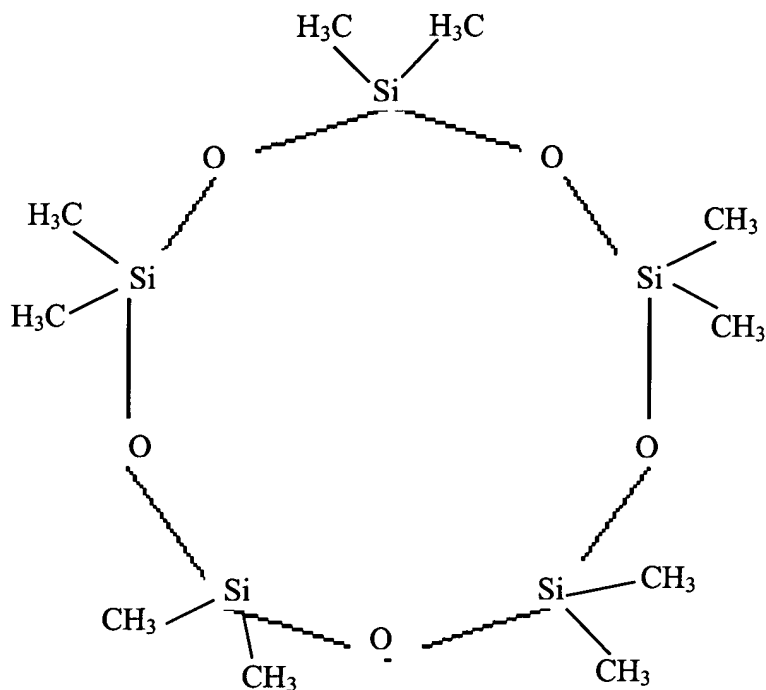
where 1) D3 has the formula:



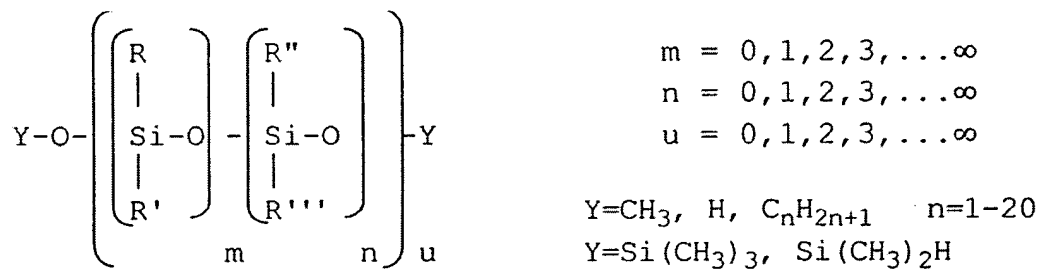
2) D4 has the formula:



and 3) D5 has the formula:



m) Polysiloxanes or silicone oils having any one of the formula



, $Si(CH_3)_2OH$, $Si(CH_3)_2(OCH_3)$, or

$Si(CH_3)_2(C_nH_{2n+1})$, wherein $n=1-20$,

wherein,

$R = \text{alkyl, aryl, } (CH_2)_n-NH_2, \text{ or } H,$

$R' = \text{alkyl, aryl, } (CH_2)_n-NH_2, \text{ or } H,$

$R'' = \text{alkyl, aryl, } (CH_2)_n-NH_2, \text{ or H,}$

$R''' = \text{alkyl, aryl, } (CH_2)_n-NH_2, \text{ or H.}$

Claim 4 (Previously presented): A method of producing the surface-modified oxides in accordance with claim 3, comprising placing pyrogenically produced oxides doped by aerosol in a suitable mixing container, spraying the oxides under intensive mixing with the surface-modification reagent or a mixture of several surface-modification reagents.

Claim 5 (Previously presented): In a reinforcing filler composition wherein the improvement comprises the surface-modified oxides according to claim 3 as reinforcing filler.

Claim 6 (Original) The method of claim 4 wherein the spraying step includes spraying with water and/or acid prior to the spraying with the surface-modification reagent or a mixture of several surface-modification reagents.

Claim 7 (Original) The method of claim 4 further comprising re-mixing at 15 to 30 minutes and tempering at a temperature of 100 to 400 °C for a period of 1 to 6 hours.

Claim 8 (Previously presented) The surface-modified, pyrogenically produced oxides according to claim 3 wherein the cyclic polysiloxanes is D 4.

Claim 9 (Cancelled)